PSYCHOLOGICAL STUDIES IN BURN PATIENTS

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Although considerable attention has been focused on thermal injuries covering such topics as basic nursing care through the surgical techniques necessary for treatment, little research attention has been given the emotional problems of these patients. Severe burns have been characterized by a number of workers as evoking the maximum metabolic response to trauma. The multiple complications of fluids, electrolytes, nutrition, anemia and infection become major challenges from a physiological standpoint, but also probably play a role in the psychological problems of the patient. Individual cases can easily be recalled by each of us, and have left imprints of varying psychological disturbances that have often been used to generalize as a typical group response depending upon age, sex, location and extent of burn.

Hamburg and his co-workers[1] and Long and Cope[2] have strongly emphasized that the emotional problems accompanying extensive thermal injury must be an integral part of any over-all treatment plan. These authors indicate that emotional problems primary to the injury include the threat to survival and the fear of permanent damage, as well as secondary emotional problems resulting from psychological significance of the burn and the impact of the burn on the patient's personality; these are factors that must be recognized in order to treat the burn patient adequately.

Despite the general awareness of these kinds of problems and the over-all awareness of the adjustment problems concomitant to sickness and disability and the fact that adequate rehabilitation does not necessarily accomplish itself following successful medical recovery, little attention of a rigorous nature has been focused on this area.

A review of the theoretical approaches to the study of disability indicates that a number of systems have attempted to explain psychologically how and why physically disabled or physically sick people behave as they do. The underlying assumption among many of these is that there is a change in behavior following a disability or illness. Among the more systematic and comprehensive studies are that of Barker and associates,[3] "new psychological situation" and related concepts, Dreikurs'[4] use of Adlerian psychology, and Janis'[5] application of Freudian psychoanalysis to reactions to stress. Less comprehensive approaches are seen in Meng's use of Freudian psychoanalysis,[3] Bender's[6] adaptation of Schilder's body image theory, and Lowman's concept of physique as a sociopsychological value judgment.[7]

Each of these approaches, however, is limited in its usefulness since each is

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unable to account for the variance in behavior found among disabled or physically ill people. For example, Barker's concept of a new psychological situation predicts only in broad general terms how a disabled person reacts to his disability:

1. Behavior will not be parsimonious. Wandering, exploratory, trial-and-error behavior will occur.
2. Frustration will occur.
3. The person will be in a state of conflict. He will attempt to withdraw and to advance at the same time.
4. Behavior will be vacillating and unstable.
5. Behavior will be easily influenced.

Barker's approach is useful if we are interested in predicting behavior on this level, but it will not assist in understanding the individual and his characteristic adaptation to the stress of a disability or illness. In addition, it will not enable us to understand the more dynamic aspects of a person's reactions, nor allow us to systematize our observations of variations in his behavior.

In contrast to Barker, Janis utilizes personality factors in explaining behavior of patients undergoing major surgery. He reports that both patients with low fear and those with high fear prior to surgery react in an emotionally disturbed manner following operation. On the other hand, those who show a moderate degree of fear prior to surgery do not display emotionally disturbed behavior afterwards. The "moderate fear" group, in contrast to the "low" and "high fear" groups, is classified as having a normal personality pattern. The conclusions drawn, however, do not provide for precise estimations of personality factors.

Wittkower[8] has attempted to account for variability in behavior following a chronic illness in studying the case histories of 300 tubercular patients. He found that premorbid personality was significantly related to the patient's behavior subsequent to the illness and described three distinct premorbid personality groups, each responding in a different and consistent manner, as follows: (1) *conscientious* individuals, who felt that to be ill, unfit and dependent was incompatible with their high and rigid self-imposed standards of health and social responsibility; (2) *dependent* persons, who seemed to feel an urgency to get better and perhaps actually did not want to get well; and (3) *rebellious* patients, who felt an opposition to regimentation, and resentment at fate and at confinement which more or less completely obliterated their immediate concern about their illness.

Since our purpose was to relate personality types to the behavior of burn patients, it was concluded that the model developed by Wittkower would be of greater value as a guide than the approaches outlined by the other writers mentioned. The problems for investigation of the psychological behavior of burned patients were grouped according to motivation for recovery, motivation toward ambulation and physical therapy, response to nursing and medical care, expression of pain, adequacy of adjustment to the hospital, and understanding of treatment goals. In order to measure the relationship between personality types and ward behavior, a classification of six basic personality types was evolved with descriptive terminology which would facilitate their assignment to cate-

gories by nursing and medical personnel without specific psychological and psychiatric terminology. These were compiled from patient charts studied in detail and nurses' notes as well as from current observations in the Burn Unit. Behavior was also estimated in a number of rating scales as follows: Motivation Toward Ambulation, Physical Therapy Rating Scale, Expression of Pain, General Ward Behavior Rating Scale for Nurses, and Family Rating Scale.

DEVELOPMENT OF RATING SCALES

Personality

Observations of patients' behavior and discussions with nurses indicate that burned patients can be classified into several categories which reflect characteristic types of behavior during hospitalization. These groups are as follows: (1) Well Adjusted Group; (2) Overly Compliant-Submissive Group; (3) Complaining-Demanding Group; (4) Uncooperative-Obstructive Group; (5) Passive-Helpless Group; and (6) Unresponsive Group.

This classification is based on an analysis of 109 behavioral statements regarding patients' ward behavior, studies of charts, observations of patients' behavior descriptions from nursing and medical staff. The descriptive statements were grouped to reflect clinically different characteristic ways of responding; nurses were presented these items and were asked to sort out those which were ambiguous, unclear, or overlapping. Items were then submitted to four psychologists, who were asked to combine them into six personality groups (table 1). Again, items which were not clear in meaning or which would not be assigned to one of the groups were either discarded or rewritten. Nonclinical descriptive titles were assigned to each group, reflecting in a succinct way the typical mode of behavior of each group.

As a check on the validity of the groups, the psychologists were then asked to translate them into psychiatric diagnostic categories. The nonclinical descriptive title and the assigned psychiatric diagnostic categories were obtained as

TABLE 1

*Personality rating scale: Item reliability**

Personality Groups	Well Adjusted				Submissive-Compliant				Complaining-Demanding				Passive-Helpless				Uncooperative-Obstructive				Unresponsive			
Judges (Psychologists)	a	b	c	d	a	b	c	d	a	b	c	d	a	b	c	d	a	b	c	d	a	b	c	d
Rating Scale Item Numbers	4	4	4	4	3	3	3	3	6	2	6	6	2	—†	2	2	1	1	1	1	7	7	7	7
	11	11	11	11	10	10	10	10	9	9	9	9	8	8	8	8	5	5	5	—	15	15	15	15
	16	16	16	16	14	14	14	14	18	18	18	18	12	12	12	12	13	13	13	13	21	21	21	21
	20	20	20	20	17	17	17	17	27	—	27	27	19	19	19	19	22	22	22	22	26	26	26	26
	25	25	25	25	23	23	23	23	34	—	34	34	24	24	24	24	28	28	28	—	31	31	31	31
	30	30	30	30	32	32	32	32	39	39	39	39	29	29	29	29	33	33	33	—	37	37	37	37
	35	35	35	35	38	38	38	38	42	42	42	42	36	36	36	36	43	43	43	43	41	41	41	41
	40	40	40	40	44	44	44	44	47	47	47	47	48	48	48	48	46	46	46	46	45	45	45	45

* Items were accepted that reached at least the 75 per cent level of agreement.

† — Items were not properly assigned at these points. Rather, they were assigned to another group.

follows, with unanimous agreement obtained among the consultants: (1) Well Adjusted Group—Normal Personality; (2) Overly Compliant-Submissive Group—Inadequate Character; (3) Complaining-Demanding Group—Rebellious-Aggressive Personality; (4) Uncooperative-Obstructive Group—Rebellious-Aggressive Personality; (5) Passive-Helpless Group—Passive-Dependent Personality; and (6) Unresponsive Group—Depressive Reaction.

This empirically derived personality grouping is similar to that of Chance[9] (table 2), which was set up as a four-fold system of classifying interpersonal experiences derived from the theoretical writings of Freud, Adler, Jung, Reich, Horney, Fromn, and Abraham, with the addition of groups 5 and 6, the Passive-Helpless and the Unresponsive Group.

Table 1 shows the item reliability by the consultant psychology team of items in the Patient Personality Rating Scale. Only those that met the criterion of 75 per cent agreement by the four were retained. In the Well Adjusted Group all eight items met the criterion of 100 per cent agreement among the psychologists. In the Submissive-Compliant Group all items except three met the criterion of 100 per cent agreement. These three were met at the 75 per cent level. In the Passive-Helpless Group all items except one met the criterion of 100 per cent agreement. This one was met at the 75 per cent level of agreement. In the Uncooperative-Obstructive Group all items except three met the criterion of 100 per cent agreement, and these three met the criterion of 75 per cent agreement.

TABLE 2

A comparison between the personality group classification for study of burned patients and the classification of Chance[9] for interpersonal experiences

Classifications	Characteristics
Negative Active Relationships (Uncooperative-Obstructive Group)	Dictates, Dominates, Bosses, Rebels, Boasts, Shows off, Rejects, Takes away, Competes, Threatens, Mocks, Punishes, Disapproves, Attacks, Condemns
Negative Passive Relationships (Complaining-Demanding Group)	Passively Criticizes, Resents, Fails to appreciate, Complains, Nags, Resists passively, Distrusts, Demands, Accuses, Apologizes, Is self-critical, Retreats, Is cowed into obedience, Obeys a feared authority, Submits
Positive Active Relationships (Well Adjusted Group)	Directs, Leads, Controls kindly, Teaches, Informs, Advises, Gives, Interprets, Helps, Supports, Sympathizes, Pities
Positive Passive Relationships (Overly Compliant-Submissive Group)	Loves to be praised, Appreciates, Loves to be liked, Cooperates, Conciliates, Agrees, Trusts, Asks help, Depends, Admires, Asks advice, Asks opinion, Conforms, Likes to do as others do, Is obedient

TABLE 3

*Clinical description of personality groups: reliability study of nonburn patients**

Patients	Nurses			Age of Patients	Type of Illness
	A	B	C		
1	W-A	W-A	W-A	47	Paraplegic—10 years
2	W-A	W-A	W-A	63	Obstruction of urethral Junction
3	W-A	W-A	W-A	87	Nephrectomy
4	W-A	W-A	W-A	35	Headache
5	W-A	W-A	W-A	71	Leg ulcers
6	P-H	P-H	C-D	40	Paraplegic—foot amputated
7	P-H	P-H	P-H	32	Rhinoplasty
8	P-H	P-H	P-H	62	Fracture of hip
9	P-H	P-H	P-H	59	Knee tumor
10	P-H	P-H	P-H	51	Osteomyelitis of mandible
11	C-D	C-D	C-D	60	Fracture of foot
12	C-D	C-D	C-D	63	Cancer of bladder

* W-A, Well Adjusted Group; P-H, Passive Helpless Group; C-D, Complaining-Demanding Group.

In the Unresponsive Group all of the eight items met the criterion of 100 per cent agreement. It is assumed, therefore, that the eight items assigned to each of the six personality groups represent the characteristic forms of behavior of these types of personality. A brief clinical description was written for each of the personality groups reflecting the characteristic forms of behavior.

In order to check the reliability of the rating scale, three nurses were asked to classify twelve female nonburned patients according to the Personality Group outline. Table 3 indicates the results obtained. In all except one case there was 100 per cent agreement among the nurses in classifying the personalities of the patients. In this instance, two of the nurses were in agreement.

Burn Studies

A total of 47 burn patients, 24 women and 23 men, were studied and categorized according to personality classification. Results are shown in table 4. The most frequent type encountered, with fairly even sex distribution, was that of Passive-Helpless, a total of 44.7 per cent of the patients. Next came the Well-Adjusted Group with 29.8 per cent and 7 men and women each. The other groups appeared in small percentages, 8.5 per cent each for the Complaining-Demanding and Uncooperative-Obstructive Groups, 6.4 per cent for the Overly Submissive-Compliant Group, and only 1 patient (2.1 per cent) in the Unresponsive or Depressed Group. Sex differences were noted but only in categories where figures were too low for evaluation of their significance.

No significant differences were noted in age of patients with relation to hospital adjustment or to basic personality type, and likewise the total percentage and

TABLE 4

Frequency distribution of burn patients according to personality classification

Personality Groups	Patients		Total	Per Cent
	Female	Male		
Well-Adjusted	7	7	14	29.8
Overly Submissive-Compliant	0	3	3	6.4
Passive-Helpless	12	9	21	44.7
Complaining-Demanding	4	0	4	8.5
Uncooperative-Obstructive	0	4	4	8.5
Unresponsive	1	0	1	2.1
Total	24	23	47	100.0

depth of involvement were not a factor in determining response to thermal trauma, at least in so far as the Well-Adjusted and Passive-Helpless Groups were concerned. Response was not dependent upon the length of hospitalization.

Well-adjusted patients, both men and women, were more highly motivated toward ambulation and physical therapy, as might be anticipated. In women patients more pain was expressed by the Passive-Helpless Group than by the Well-Adjusted women, as expected. In the four Complaining-Demanding women, however, expression of pain was not marked. The Passive-Helpless men had more pain than any other group.

In the general ward behavior rating scale, well-adjusted patients were better liked than other groups, were easier to care for, made a more satisfactory adjustment to the hospital environment, and had better general motivation for recovery. The Uncooperative-Obstructive men appeared to have more motivation than the Passive-Helpless group, but there was no difference between the Passive-Helpless women and the Complaining-Demanding women as indicated by the 4 who comprised the latter group. In both men and women the Passive-Helpless patient showed far greater interest in nursing and medical care than the Well-Adjusted Group, and this finding is considered to be of particular significance, especially since the Well-Adjusted patients had a far greater degree of understanding of the aims and goals of treatment and responded to the therapy regimen in a manner superior to other groups.

SUMMARY

Preliminary findings seem to suggest that rating scales as used in this psychological study have remained valid in a smaller number of patients; certainly a much larger series with a longer follow-up is essential. Extremely complete social structured interviews, additional psychiatric interviews, and further rating scales need to be developed in attempt to further assess reactions of the burn patient as they relate to success and failure of treatment. If nothing else, this study has brought together newer thinking from the surgeon's standpoint to understand

better the emotional responses of his patients and the psychiatrist's and psychologist's understanding of the multiple problems of the surgeon. Long term follow-up and rehabilitation of these burn patients is essential before final evaluation can be given. The use of group psychotherapy may be advantageous in the treatment of burns. We firmly believe that frequent visits by the professional staff, plus aid when needed by psychiatrists and psychologists, will enhance therapy in the burn patients.

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APPENDIX I

General Ward Behavior Rating Scale for Nurses

1. How do you think other patients feel about this particular patient?
__ a. They like him very much.
__ b. They like him.
__ c. They like him just as much as they dislike him.
__ d. They dislike him.
__ e. They dislike him very much.
2. Generally speaking, how easy or difficult is it for you to carry out your overall nursing duties for this patient?
__ a. Very easy.
__ b. Easy.
__ c. Just as easy as it is difficult.
__ d. Difficult.
__ e. Very difficult.
3. In considering all factors, how adequate is this patient's adjustment to the nursing and medical treatment program? Does he fit into and become a part of the hospital procedures?
__ a. Very adequate adjustment.
__ b. Adequate adjustment.
__ c. No more adequate adjustment than inadequate adjustment.
__ d. Inadequate adjustment.
__ e. Very inadequate adjustment.
4. In terms of motivation for recovery, how would you rate this patient's desire to get well, to recover from his burn?
__ a. Very good motivation for recovery.
__ b. Good motivation for recovery.
__ c. Average motivation for recovery.
__ d. Poor motivation for recovery.
__ e. Very poor motivation for recovery.
5. This patient shows more interest and/or desire in getting nursing and medical care than the other patients.
__ a. Strongly agree.

__ b. Agree.
__ c. Agree no more than disagree.
__ d. Disagree.
__ e. Strongly disagree.

6. How cooperative is this patient with members of the staff in following the prescribed medical and nursing treatment program?
__ a. Very cooperative.
__ b. Cooperative.
__ c. No more cooperative than uncooperative.
__ d. Uncooperative.
__ e. Very uncooperative.

7. To what extent does the patient understand the reasons for treatment?
__ a. Very good grasp of what are the treatment goals and what he should do.
__ b. Good grasp.
__ c. Average.
__ d. Poor grasp.
__ e. Very poor grasp of what are the treatment goals and what he should do. He is confused and vague about these goals.

APPENDIX II

Motivation Toward Ambulation

1. T MT MF F* The patient assumes initiative in ambulating. For Example:
   a. He ambulates after being informed to do so.
   b. He may ambulate at the appointed time without being reminded.
   c. He may ambulate more than the required minimum.
2. T MT MF F The patient attempts to avoid ambulating. For Example:
   a. He complains that it hurts too much to move.
   b. At first he says he can't ambulate but later goes ahead and ambulates after considerable urging.
   c. He may try to postpone it by saying, "I'll do it tomorrow," or "Come back later," or "I'm too tired."
3. T MT MF F The patient ambulates, if at all, only when a nurse or relative is present (assuming he needs no physical support). For example:
   a. He won't ambulate alone.
   b. He doesn't have much desire to ambulate.
   c. He offers some form of resistance to ambulating.
4. T MT MF F The patient is interested in ambulating. For Example:

* T, True; MT, Mostly True; MF, Mostly False; F, False.

a. He is proud of the fact that he can move about and may tell attendant personnel and others.
b. He looks forward to ambulating at the appointed time.

5 T MT MF F The patient gives up easily in ambulating. For example:
a. After a brief period of time he wants to stop.
b. He may say, "I've had enough. Let's stop now," or "This is too much for me," etc.

6. T MT MF F The patient is actively cooperative in following suggestions and directions. For Example:
a. He participates in the ambulation program in a spirit of wanting to do so.
b. It is not necessary to use more than a moderate amount of suggestion or pressure to get him to ambulate.

APPENDIX III

*Physical Therapy Rating Scale**

1. T MT MF F The patient assumes initiative in activities related to physical therapy (PT). For example he may:
a. Devise new or different ways of exercising.
b. Engage in functional activities that are beneficial to the PT program and to his recovery.
c. Start PT in a spirit of real interest and genuine desire when approached.

2. T MT MF F The patient attempts to avoid PT activities by making such statements as:
a. "I hurt too much to do it now."
b. "Don't move me."
c. "I'll do it tomorrow."

3. T MT MF F The patient practices his PT exercises when the therapist is not present.

4. T MT MF F If the patient cooperates at all, it is only within his pain threshold, *i.e.*, when it starts to hurt he quits or wants to quit. For example he may say:
a. "I want to stop now. It hurts too much."
b. "That's enough. Let's stop."

5. T MT MF F If the patient participates in PT he does so passively with just enough cooperation to get by. For example:
a. He does only what is asked of him and that's all.
b. He will do 10, if at all, then stop.

* The physical therapist assigned to each burn patient rated the patient at the end of the hospitalization period. T, True; MT, Mostly True; MF, Mostly False; and F, False.

6. T MT MF F The patient is interested in doing PT. For example:
   a. He is proud of his progress and tells you and others about it.
   b. He looks forward to doing therapy.

APPENDIX IV

Expression of Pain

1. T MT MF F* In comparison with others, this patient asks for more pain medicine than would be expected according to his present physical condition. For example:
   a. He asks for pain medicine following the Hubbard Tank, burn dressings, grafting, etc., more so than would be expected.
   b. He creates some form of vocal disturbance in an effort to get medicine for pain (cries, whines, whimpers, demands, etc.).
   c. He asks for sleeping medicine other than that ordered.
2. T MT MF F The patient indicates attention to or awareness of his pain medication program in one or more of the following ways:
   a. He is a "clock watcher."
   b. He asks for pain medicine prior to his scheduled time to receive it.
   c. He asks how long it will be before his next administration of pain medicine.
3. T MT MF F The patient expresses more pain than you would expect according to his present physical condition and in relation to other similar patients.

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